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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EDELL, SHAPIRO, FINNAN & LYTLE, LLC
1901 RESEARCH BOULEVARD
SUITE 400
ROCKVILLE, MD 20850

EXAMINER

MULL, FRED H

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/839,598

Applicant(s)

MARTORANA, MARC J.

Examiner

Fred H. Mull

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 20 July 2001 and 23 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. Since published versions of the cited applications are available, the published versions have been cited on the examiner's Notice of References Cited, and the applications have been lined out on the IDS.

35 USC § 112 6th Paragraph

The following is a quotation of the sixth paragraph of 35 U.S.C. 112:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

2. Claim(s) 19-29 is/are interpreted by the examiner as invoking 35 USC 112 6th paragraph (means plus function). See MPEP § 2181-2186.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 7-9, 14-16, 18-20, 25-27, 29-31, 36-38, and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Friedman.

In regard to claim 1, Friedman discloses:

(a) determining a position of the target communication with sufficient accuracy to direct a search communication device to within a vicinity of the target communication device (col. 1, lines 39-40);

(b) repeatedly measuring the range between the target communication device and the mobile search communication device once the search communication device is within the vicinity by repeatedly exchanging an outbound ranging signal and a reply ranging signal between the target communication device and the search communication device and determining a round-trip signal propagation time of the outbound ranging signal and the reply ranging signal (col. 1, line 48 to col. 2, line 2); and

(c) directing movement of the search communication device toward the target communication device in response to the repeatedly measured range, thereby pinpointing the position of the target communication device by reducing the range between the search and target communication devices (col. 1, lines 31-32).

In regard to claims 8, 19, and 30, Friedman further discloses a transmitter (3, Fig. 4), a receiver (4a), and a processor (24).

In regard to claims 2, 9, 20, and 31, Friedman further discloses determining the position of the target communication device from measurements of ranges between the target communication device and reference communication devices whose positions are known (col. 2, lines 3-14), where "the difference in time of receipt" indicates ranges, that one sensor is closer and another is further, and the sensors are a known locations on the mobile module.

In regard to claims 7, 14, 25, and 36, Friedman further discloses the search communication device initiates a search for the target communication device by transmitting a search mode request to the target communication device. (col. 1, line 66 to col. 2, line 2).

In regard to claims 15, 26, and 37, Friedman further discloses said search communication device is a handheld device (col. 1, lines 35-36).

In regard to claims 16, 27, and 38, Friedman further discloses said search communication device is configured to be carried on a human body (col. 1, lines 35-36), where a device resting on the human hand is being carried on a human body.

In regard to claims 18, 29, and 42, Friedman further discloses said search communication device is capable of exchanging ranging signals with a target communication device located indoors (Fig. 2).

4. Claims 1-6, 8-13, 15-24, 26-35, 37-38, and 41-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Sanderford.

In regard to claim 1, Sanderford discloses:

(a) determining a position of the target communication with sufficient accuracy to direct a search communication device to within a vicinity of the target communication device (col. 2, line 68 to col. 3, line 5);

(b) repeatedly measuring the range between the target communication device and the mobile search communication device once the search communication device is within the vicinity by repeatedly exchanging an outbound ranging signal and a reply

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ranging signal between the target communication device and the search communication device and determining a round-trip signal propagation time of the outbound ranging signal and the reply ranging signal (col. 3, lines 22-34; col. 4, lines 1-12; col. 8, lines 66-68); and

(c) directing movement of the search communication device toward the target communication device in response to the repeatedly measured range, thereby pinpointing the position of the target communication device by reducing the range between the search and target communication devices (col. 8, line 66 to col. 9, line 8).

In regard to claims 8, 19, and 30, Sanderford further discloses a transmitter, a receiver, and a processor (col. 3, lines 22-34; col. 4, lines 1-12; col. 8, lines 66-68).

In regard to claims 2, 9, 20, and 31, Sanderford further discloses determining the position of the target communication device from measurements of ranges between the target communication device and reference communication devices whose positions are known (col. 4, lines 62-64).

In regard to claims 3, 10, 21, and 32, Sanderford further discloses determining the position of the target communication device based upon a position entered manually via a user interface (col. 6, line 65 to col. 7, line 2), where the searcher receiving the position by voice from an operator rather than by electronic signaling can be considered manually determining the position.

In regard to claims 4, 11, 22, and 33, Sanderford further discloses the target communication device initiates a search for itself by broadcasting a search mode request (col. 9, lines 18-23).

In regard to claims 5, 12, 23, and 34, Sanderford further discloses a central control device initiates a search for the target communication device by broadcasting a search mode request to potential search devices (col. 2, line 42 to col. 3, line 21), where the central monitoring station sends a request to the search team to search for the target at an approximate starting location.

In regard to claims 6, 13, 24, and 35, Sanderford further discloses communication devices not within the vicinity of the target communication device retransmit search mode requests broadcasted by the central control device, thereby extending the broadcast range of the central control device (Fig. 2), where the repeaters (110) extend the range of the central monitoring station (115), as indicated by the searcher (108) receiving a transmission from the central monitoring station (115) by way of the rightmost repeater (110).

In regard to claims 15, 26, and 37, Sanderford further discloses said search communication device is a handheld device (108, Fig. 2).

In regard to claims 16, 27, and 38, Sanderford further discloses said search communication device is configured to be carried on a human body (108, Fig. 2), where a device resting on the human hand is being carried on a human body.

In regard to claims 17, 28, and 41, Sanderford further discloses said search communication device is configured to operate in search mode onboard a moving vehicle (col. 11, lines 41-43).

In regard to claims 18, 29, and 42, Sanderford further discloses said search communication device is capable of exchanging ranging signals with a target communication device located indoors (col. 7, lines 34-35).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sanderford as applied to claim 30, and in further view of Kotoh.

Kotoh discloses a search and rescue communication device is incorporated into clothing worn on the body (col. 1, lines 5-12, 55-61). This is to ensure that a person in need of rescue has a search and rescue communication device in order to be located (col. 1, lines 1-46). It would have been obvious to one of ordinary skill in the art to include the incorporation of a search and rescue communication device feature of Kotoh into the invention of Sanderford in order to ensure that anyone in need of rescue has a device with them that they can use to be located and rescued, rather than a non-attached device that could be forgotten or dropped during an chaotic emergency situation.

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6. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sanderford in view of Linnett.

Linnett discloses a search and rescue communication device that is a mobile telephone (abstract; p. 9, lines 21-29). It would have been obvious to one of ordinary skill in the art to incorporate the search and rescue communication device of Sanderford into a mobile phone, as taught by Linnett, in order to reduce the number of devices that must be carried by a user and make carrying the search and rescue communication device more convenient.

7. Claims 1, 7-8, 14, 17, 19, 25, 28, 30, 36, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner.

In regard to claim 1, Friedman discloses:

determining a position of the target communication with sufficient accuracy to direct a search communication device to within a vicinity of the target communication device and the range between the target communication device and the mobile search communication device once the search communication device is within the vicinity by repeatedly exchanging an outbound ranging signal and a reply ranging signal between the target communication device and the search communication device and determining a round-trip signal propagation time of the outbound ranging signal and the reply ranging signal (col. 1, lines 47-60; col. 2, lines 35-36).

Wagner does not explicitly disclose directing movement of the search communication device toward the target communication device in response to the

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repeatedly measured range, thereby pinpointing the position of the target communication device by reducing the range between the search and target communication devices. However Wagner discloses that his system can be used for the case of one mobile object locating another mobile object, such as an aircraft locating an aircraft carrier (col. 1, lines 8-11). It would have been obvious for one of ordinary skill in the art to include repeated range measurements by the aircraft, since the aircraft carrier may move after a measurement, possibly due to unexpected enemy activity, and the aircraft will need to know where it has moved to in order to land on it.

In regard to claims 8, 19, and 30, Friedman further discloses a transmitter, a receiver, and a processor (col. 1, lines 47-60).

In regard to claims 7, 14, 25, and 36, Friedman further discloses the search communication device initiates a search for the target communication device by transmitting a search mode request to the target communication device. (col. 1, lines 47-49).

In regard to claims 17, 28, and 41, Wagner further discloses said search communication device is configured to operate in search mode onboard a moving vehicle (col. 1, lines 8-60), where the aircraft is a moving vehicle.

8. Claims 1, 3-4, 8, 10-11, 17, 19, 21-22, 28, 30, 32-33, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takase in view of Forey.

In regard to claim 1:

Forey discusses the Search and Rescue Transponder (SART) framework that has been adopted internationally (p. 81, section entitled "International Adoption and Improvement", 1st paragraph), but does not discuss the details of the transponder in detail.

Takase discusses his transponder for search and rescue in detail, but does not discuss the use of that transponder in the international framework that exists for search and rescue situations.

Forey discloses determining a position of the target communication with sufficient accuracy to direct a search communication device to within a vicinity of the target communication device and directing movement of the search communication device toward the target communication device in response to the repeatedly measured range, thereby pinpointing the position of the target communication device by reducing the range between the search and target communication devices (p. 80, section entitled "Development ...", 1st paragraph, lines 2-5).

Takase discloses measuring the range between the target communication device and the mobile search communication device once the search communication device is within the vicinity by repeatedly exchanging an outbound ranging signal and a reply ranging signal between the target communication device and the search communication device and determining a round-trip signal propagation time of the outbound ranging signal and the reply ranging signal (RTD: round trip delay distance) (col. 3, line 49 to col. 4, line 5; col. 9, lines 30-36; Fig. 1), where radar determines position using round trip signal propagation time to determine distance. (There is also a discussion of

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distance determination on col. 11, line 58 to col. 12, lines 41 which, to summarize, lays out a method such that in the case of multiple searching radars, the radars will get a correct RTD, and searcher A will only determine RTD based on the response to its own interrogation, and not to use the time of a response to searcher B's interrogation in determining RTD.)

It would have been obvious to use the transponder of Takase in the internationally accepted SART framework of Forey, since this is the framework in which search and rescue transponders are used.

In regard to claims 8, 19, and 30, Takase further discloses a transmitter configured to transmit an outbound ranging signal to the target communication device (col. 3, lines 55-57); a receiver configured to receive a reply ranging signal from the reference communication device in response to the outbound ranging signal (col. 3, lines 59-61); and a processor configured to determine the range to the target communication device from a round-trip signal propagation time (RTD) of the reply ranging signal and the outbound ranging signal (col. 3, lines 61-63; col. 9, lines 30-36).

In regard to claims 3, 10, 21, and 32, Forey further discloses determining the position of the target communication device based upon a position entered manually via a user interface (p. 80, section entitled "Development ...", 1st paragraph, lines 2-5), where calling on a radiotelephone and reading off an approximate location can be considered manually entering the approximate location into the method.

In regard to claims 4, 11, 22, and 33, Forey further discloses the target communication device initiates a search for itself by broadcasting a search mode request (p. 80, section entitled "Development ...", 1st paragraph, lines 2-5).

In regard to claims 17, 28, and 41, both Takase (1, Fig. 1) and Forey (p. 80, section entitled "Development ...", 1st paragraph, lines 2-5) further discloses said search communication device is configured to operate in search mode onboard a moving vehicle.

9. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takase and Forey as applied to claim 30, and in further view of Kotoh.

Kotoh discloses a search and rescue communication device is incorporated into clothing worn on the body (col. 1, lines 5-12, 55-61). This is to ensure that a person in need of rescue has a search and rescue communication device in order to be located (col. 1, lines 1-46). It would have been obvious to one of ordinary skill in the art to include the incorporation of a search and rescue communication device feature of Kotoh into the invention of Takase and Forey in order to ensure that anyone in need of rescue has a device with them that they can use to be located and rescued, rather than a non-attached device that could be forgotten or dropped during an chaotic emergency situation.

10. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takase and Forey as applied to claim 30, and, in further view of Linnett.

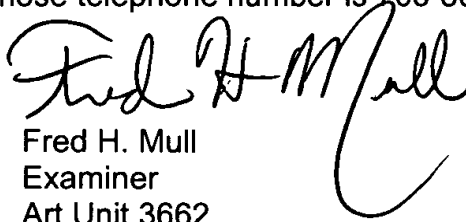
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Forey discloses the use of a search and rescue communication device and a mobile telephone in concert in the SART rescue framework (p. 80, section entitled "Development ...", 1st paragraph, lines 2-5). Forey fails to disclose that the SART and mobile telephone are integrated into one device. Linnett discloses a search and rescue communication device that is integrated into a mobile telephone (abstract; p. 9, lines 21-29). It would have been obvious to one of ordinary skill in the art to incorporate the search and rescue communication device of Takase and Forey into a mobile phone, as taught by Linnett, in order to reduce the number of devices that must be carried by a user and make carrying the search and rescue communication device more convenient.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 703-305-1250. The examiner can normally be reached on M-F 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on 703-360-4171. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.


Fred H. Mull
Examiner
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fhm